

**REMARKS/ARGUMENTS**

Claims 1-18 were pending in the present application. The present response amends claims 1, 3, 4, 7, 10, 11, and 15, leaving pending in the application claims 1-18. Reconsideration of the rejected claims is respectfully requested.

**I. Objection to the Specification**

The specification is objected to as containing a number of informalities. In particular, the Abstract is objected to as containing purported merits, as well as various typographical errors. Applicants have amended the specification to address these issues as listed above. These changes are not intended to alter the scope of the claimed invention or be interpreted as a limitation on the claimed invention. Applicants therefore respectfully request that the objections with regard to the specification be withdrawn.

**II. Rejection under 35 U.S.C. §112**

Claims 1-18 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, claims 1, 4, 7, 8, 9, 10, and 15 are rejected for lacking proper antecedent basis for all terms; claims 1, 4, 7, 8, 10, 15 are rejected for being vague; claims 1 and 7 are rejected for lacking clear connection; and claim 11 is rejected due to confusion of scope. Each of these claims has been amended as listed above and should be sufficiently definite. Applicants therefore respectfully request that the rejection with respect to claims 1-18 be withdrawn.

**III. Rejection under 35 U.S.C. §102**

Claims 1-4 and 6-10 are rejected under 35 U.S.C. §102(a) as being anticipated by *Sezginer* (WO 02/065545 A2). Independent claims 1 and 7 as amended reflect aspects of claim 15 that were not rejected over the prior art and as such should be allowable.

In particular, claim 1 as amended requires a method for optically inspecting a sample, defined by:

illuminating the sample with an incident field and obtaining a resulting output field;  
measuring the resulting output field to determine an optical response of the sample;

generating measurement parameters that correspond to the measured optical response by performing the following operations:

- a) searching a database to locate a pre-computed optical response that most closely matches the determined optical response,
- b) **interpolating using the pre-computed optical response to generate an interpolated optical response that matches the determined optical response within a first defined termination criterion, and**
- c) **iteratively evaluating a theoretical model to refine the interpolated optical response until the refined interpolated optical response matches the determined optical response within a second defined termination criterion and determining the measurement parameters therefrom.**

(*emphasis added*). Such limitations are not disclosed, taught, or suggested by *Sezginer*.

Addressed in only one sentence of the application, *Sezginer* states that “the response of the overlapping gratings can be obtained at measurement time by interpolating between discrete entries in the database” (*Sezginer* p. 32, lines 1-4). *Sezginer* does not disclose the generation of an interpolated optical response that then is refined by evaluating a theoretical model as required by Applicants’ claim 1. *Sezginer* merely suggests interpolating between discrete entries in the database, without disclosing what these discrete entries are, how the interpolation is done, doing an iterative refinement of the interpolated results, how one would do an iterative refinement of the interpolated results, or how the interpolation of *Sezginer* is a “further refinement.” As such, *Sezginer* cannot anticipate or render obvious Applicants’ claim 1. Claim 7 recites similar elements that also are not anticipated or rendered obvious by *Sezginer*. As such, claims 1 and 7 and dependent claims 2-4, 6, and 8-10 cannot be anticipated or rendered obvious by *Sezginer*. Applicants therefore respectfully request that the rejection with respect to claims 1-4 and 6-10 be withdrawn.

#### IV. Rejection under 35 U.S.C. §103

Claim 5 is rejected under 35 U.S.C. §103(a) as being obvious over *Sezginer* in view of *Johnson* (US 2002/0038196). Claim 5 depends from claim 1, which is not rendered obvious by *Sezginer* as discussed above. *Johnson* does not make up for the deficiencies in *Sezginer* with respect to claim 1. *Johnson* is cited as teaching multi-cubic interpolation. Even if it were obvious to combine such teaching with *Sezginer*, it still would not render claim 1 obvious as neither claim teaches or suggests, either alone or in combination, “interpolating using the pre-computed optical response to generate an interpolated optical response that matches the determined optical response within a first defined termination criterion” and “iteratively

evaluating a theoretical model to refine the interpolated optical response until the refined interpolated optical response matches the determined optical response within a second defined termination criterion and determining the measurement parameters therefrom" as required by Applicants' claim 1. As such, claim 1 and dependent claim 5 cannot be rendered obvious by *Sezginer* and *Johnson*, either alone or in combination. Applicants therefore respectfully request that the rejection with respect to claim 5 be withdrawn.

#### V. Amendment to the Claims

Unless otherwise specified, amendments to the claims are made for purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof. The amendments are supported by the specification and do not add new matter to the specification.

#### VI. Conclusion

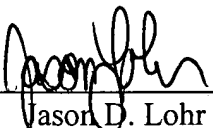
In view of the above, it is respectfully submitted that the application is now in condition for allowance. Reconsideration of the pending claims and a notice of allowance is respectfully requested.

The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-1703, under Order No. TWI-33010. **A duplicate copy of the transmittal cover sheet attached to this Response to Office Action Mailed August 25, 2005, is provided herewith.**

Respectfully submitted,

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